

AMENDMENT UNDER 37 C.F.R. § 1.111
Application Serial No. 10/759,155
Attorney Docket No. Q79358

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (currently amended): A lidar detection system comprising a device for emitting a light signal, a device for transmitting a returned portion of said light signal toward a sensor that converts it into an electrical signal and comprises cells arranged in rows and columns and successively consists of an image region comprising at least one row of photocells onto which said portion of said light signal is focused and which convert said returned portion of said light signal into electrical charges, a memory region comprising a plurality of rows of cells that are not photosensitive, and a read region comprising a row of cells that multiply said electrical charges, and timing means for shifting said electrical charges along said columns, from said image region to said memory region and then to said read region and toward a processing device, such that each row of said image region is stepped through each row of said memory region.

2. (currently amended): The lidar detection system claimed in claim 1 wherein said image ~~memory~~ region comprises a total of one single row of cells and said transmission device comprises a lens for focusing said returned portion of said light signal by contracting it in the direction of said columns and expanding it in the direction of said rows.

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3. (currently amended): The lidar detection system claimed in claim 1, comprising means for adjusting a ~~the~~ control voltage of said cells of said read region.

4. (currently amended): The lidar detection system claimed in claim 2, comprising means for adjusting a ~~the~~ control voltage of said cells of said read region.

5. (original): A method of detecting a light signal, comprising continual conversion of said light signal into electrical charges in a receiving portion of a sensor, periodic sampling of said signal by taking up charges accumulated in said receiver portion to form therefrom samples of said signal, and chained movement of said samples through a memory and then toward a processing device, in which method said samples are subjected to amplification in said sensor by multiplication of electrical charges just before being shifted toward said processing device but remain unchanged in said memory.

6. (new): A lidar detection system, comprising:
a light emitter that emits a light signal;
a sensor; and
a transmitter that transmits a returned portion of the light signal towards the sensor;
wherein the sensor converts the transmitted light signal into an electrical signal, the sensor comprising cells arranged in rows and columns that define an image region comprising at least one row of photocells onto which the transmitted light signal is focused and that convert the

transmitted light signal into electrical charges, a memory region comprising a plurality of rows of cells that are not photosensitive, and a read region comprising a row of cells that multiply the electrical charges;

the lidar detection system further comprising a timer that shifts the electrical charges along said columns, from the image region to the memory region and then to the read region and toward a processing device, such that each row of said image region is stepped through each row of said memory region.

7. (new): The lidar detection system according to claim 6, wherein the image region, memory region and read region are successively arranged in the sensor.
8. (new): The lidar detection system according to claim 6, wherein the total number of rows of the image region is less than the total number of rows of the memory region.
9. (new): A lidar detection system, comprising:
 - a light emitter that emits a light signal;
 - a sensor; and
 - a transmitter that transmits a returned portion of the light signal towards the sensor;wherein the sensor converts the transmitted light signal into an electrical signal, the sensor comprising cells arranged in rows and columns that define an image region comprising at least one row of photocells onto which the transmitted light signal is focused and that convert the

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transmitted light signal into electrical charges, a memory region comprising a plurality of rows of cells that are not photosensitive, and a read region comprising a row of cells that multiply the electrical charges;

the lidar detection system further comprising a timer that shifts the electrical charges along said columns, from the image region to the memory region and then to the read region and toward a processing device; and

wherein the total number of rows of the image region is less than the total number of rows of the memory region.

10. (new): The lidar detection system according to claim 9, wherein the image region comprises a total of one row of cells